



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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|---|-----------------------------|------------|--|----|------------|--------------------------|----|------------|---------------------------|----|------------|---------------------------|----|------------|-----------------------------|----|------------|-----------------------------|----|--|--|
| (51) International Patent Classification <sup>7</sup> :<br><br>C12Q 1/68, C12N 15/00, 15/09, 15/63,<br>15/86  |                             | A1         | (11) International Publication Number: <b>WO 00/55375</b><br><br>(43) International Publication Date: 21 September 2000 (21.09.00) |    |            |                          |    |            |                           |    |            |                           |    |            |                             |    |            |                             |    |  |  |
| <p>(21) International Application Number: <b>PCT/US00/07285</b></p> <p>(22) International Filing Date: 17 March 2000 (17.03.00)</p> <p>(30) Priority Data:</p> <table> <tr><td>60/124,916</td><td>17 March 1999 (17.03.99)</td><td>US</td></tr> <tr><td>60/124,808</td><td>17 March 1999 (17.03.99)</td><td>US</td></tr> <tr><td>60/149,639</td><td>17 August 1999 (17.08.99)</td><td>US</td></tr> <tr><td>60/157,247</td><td>1 October 1999 (01.10.99)</td><td>US</td></tr> <tr><td>60/167,824</td><td>29 November 1999 (29.11.99)</td><td>US</td></tr> <tr><td>60/182,711</td><td>15 February 2000 (15.02.00)</td><td>US</td></tr> </table> <p>(71) Applicant: ALPHAGENE, INC. [US/US]; 260 West Cummings Park, Woburn, MA 01801 (US).</p> <p>(72) Inventors: VALENZUELA, Dario; 1081 Hill Road, Boxborough, MA 01719-1010 (US). YUAN, Olive; 292 Mystic Street, Arlington, MA 02174 (US). HOFFMAN, Heidi; 90 Houghton Mill Road, Lunenburg, MA 01462 (US). HALL, Jeff; 4 Alderwood Drive, Stratham, NH 03885 (US). RAPIEJKO, Peter; 63 Old Grafton Road, Upton, MA 01568 (US).</p> <p>(74) Agent: SPRUNGER, Suzanne, A.; American Home Products Corporation, Patent &amp; Trademark Dept. – 2B, One Campus Drive, Parsippany, NJ 07054 (US).</p> |                             | 60/124,916 | 17 March 1999 (17.03.99)   | US | 60/124,808 | 17 March 1999 (17.03.99) | US | 60/149,639 | 17 August 1999 (17.08.99) | US | 60/157,247 | 1 October 1999 (01.10.99) | US | 60/167,824 | 29 November 1999 (29.11.99) | US | 60/182,711 | 15 February 2000 (15.02.00) | US | <p>(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).</p> <p>Published<br/> <i>With international search report.<br/> Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p> |  |
| 60/124,916  | 17 March 1999 (17.03.99)    | US         |  |    |            |                          |    |            |                           |    |            |                           |    |            |                             |    |            |                             |    |  |  |
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| <p>(54) Title: SECRETED PROTEINS AND POLYNUCLEOTIDES ENCODING THEM</p> <p>(57) Abstract</p> <p>Novel polynucleotides and the proteins encoded thereby are disclosed.</p>  |                             |            |  |    |            |                          |    |            |                           |    |            |                           |    |            |                             |    |            |                             |    |  |  |

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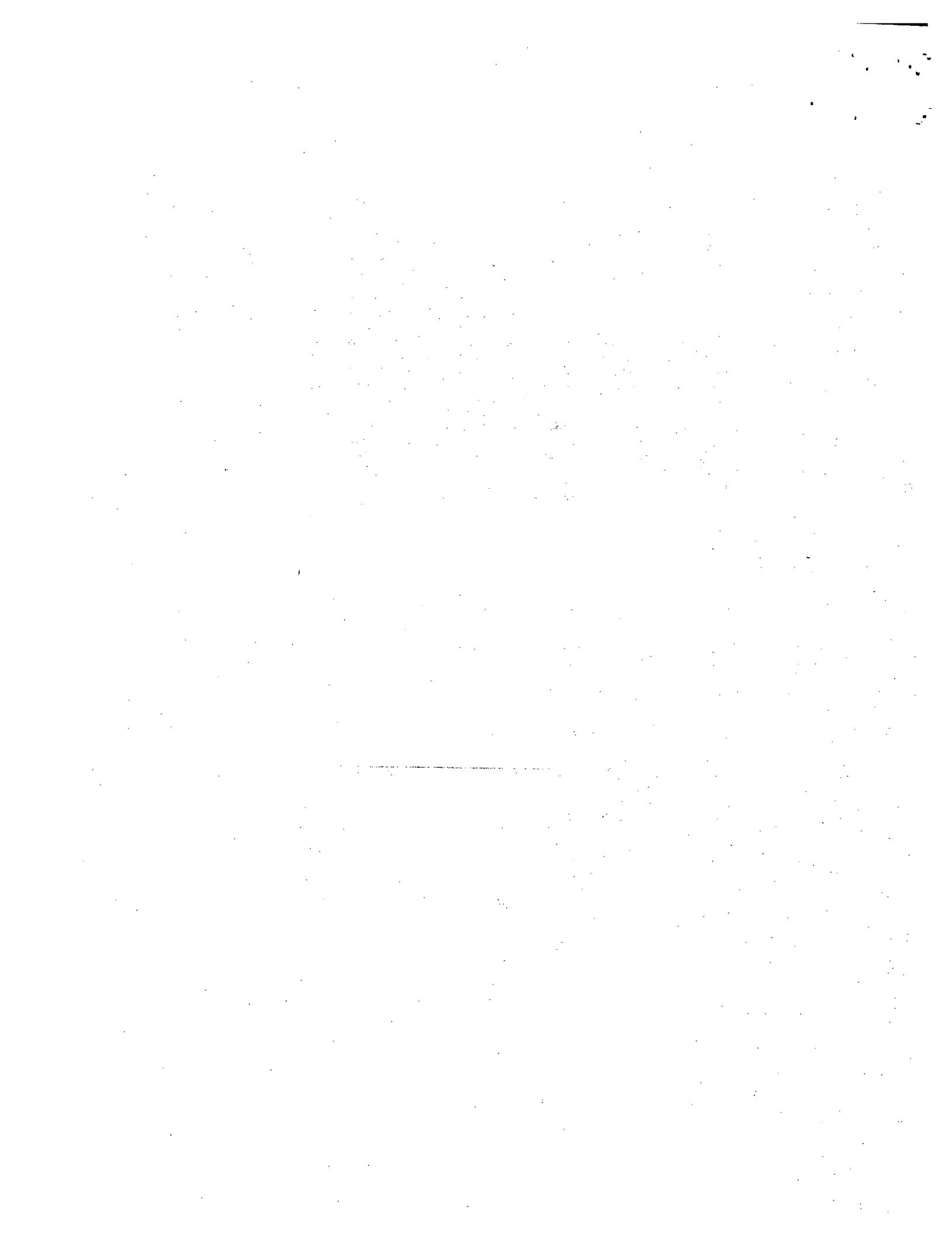
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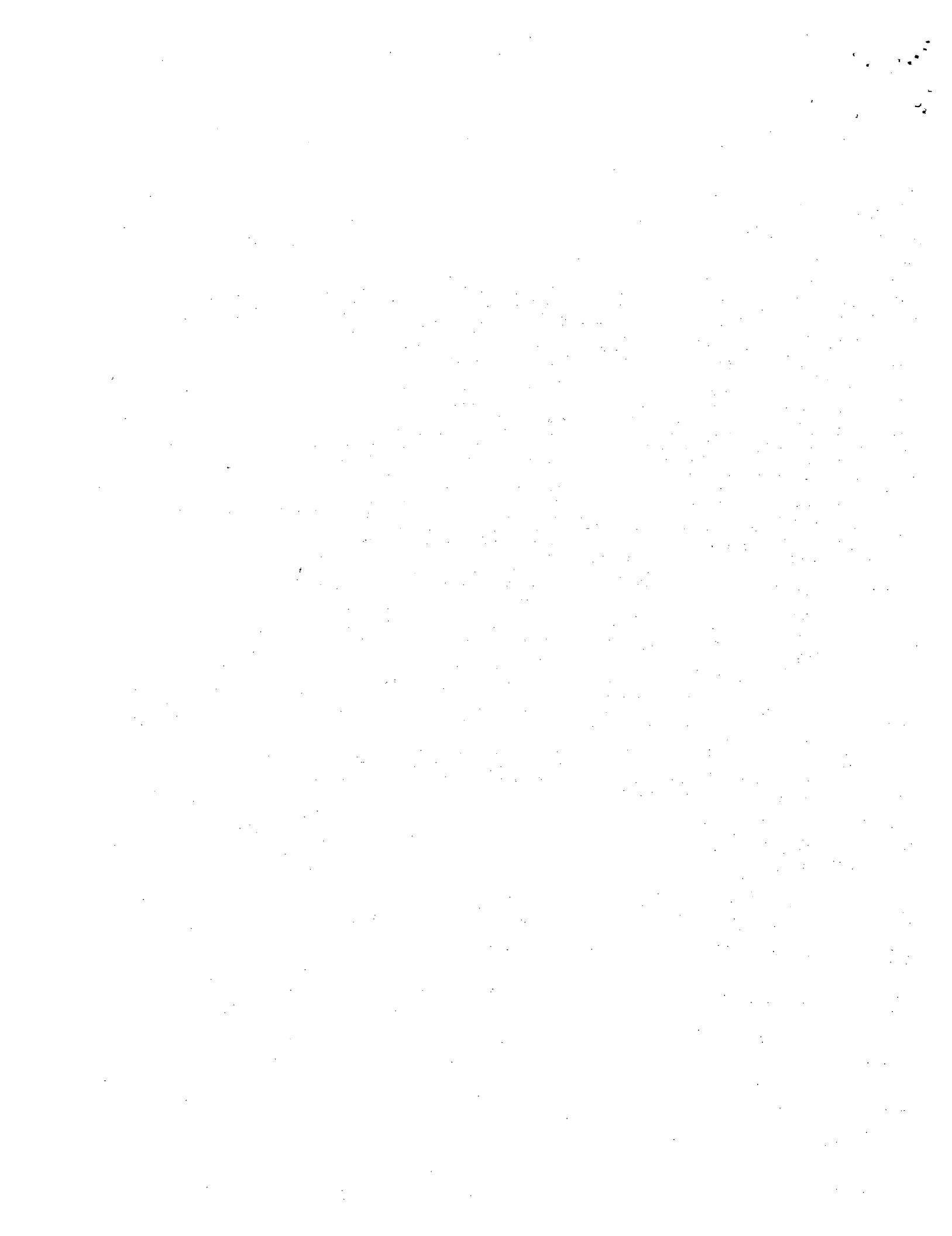
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What is claimed is:

1. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:
  - (a) the nucleotide sequence of SEQ ID NO:1;
  - (b) the nucleotide sequence of SEQ ID NO:1 from nucleotide 27 to nucleotide 260;
  - (c) the nucleotide sequence of SEQ ID NO:1 from nucleotide 72 to nucleotide 260;
  - (d) the nucleotide sequence of the full-length protein coding sequence of clone vc62\_1 deposited with the ATCC under accession number 207114;
  - (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vc62\_1 deposited with the ATCC under accession number 207114;
  - (f) the nucleotide sequence of a mature protein coding sequence of clone vc62\_1 deposited with the ATCC under accession number 207114;
  - (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vc62\_1 deposited with the ATCC under accession number 207114;
  - (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:2;
  - (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:2, the fragment comprising eight contiguous amino acids of SEQ ID NO:2;
  - (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
  - (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:1.

2. The polynucleotide of claim 1 wherein said polynucleotide is operably linked to at least one expression control sequence.
3. A host cell transformed with the polynucleotide of claim 2.
4. The host cell of claim 3, wherein said cell is a mammalian cell.
5. A process for producing a protein encoded by the polynucleotide of claim 2, which process comprises:
  - (a) growing a culture of a host cell in a suitable culture medium, wherein the host cell has been transformed with the polynucleotide of claim 2; and
  - (b) purifying said protein from the culture.
6. A protein produced according to the process of claim 5.
7. An isolated polynucleotide encoding the protein of claim 6.
8. The polynucleotide of claim 7, wherein the polynucleotide comprises the cDNA insert of clone vc62\_1 deposited with the ATCC under accession number 207114.
9. A protein comprising an amino acid sequence selected from the group consisting of:
  - (a) the amino acid sequence of SEQ ID NO:2;
  - (b) a fragment of the amino acid sequence of SEQ ID NO:2, the fragment comprising eight contiguous amino acids of SEQ ID NO:2; and
  - (c) the amino acid sequence encoded by the cDNA insert of clone vc62\_1 deposited with the ATCC under accession number 207114; the protein being substantially free from other mammalian proteins.
10. The protein of claim 9, wherein said protein comprises the amino acid sequence of SEQ ID NO:2.

11. A composition comprising the protein of claim 9 and a pharmaceutically acceptable carrier.

12. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:3;
- (b) the nucleotide sequence of SEQ ID NO:3 from nucleotide 6 to nucleotide 1325;
- (c) the nucleotide sequence of SEQ ID NO:3 from nucleotide 99 to nucleotide 1325;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vp10\_1 deposited with the ATCC under accession number 207114;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vp10\_1 deposited with the ATCC under accession number 207114;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vp10\_1 deposited with the ATCC under accession number 207114;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vp10\_1 deposited with the ATCC under accession number 207114;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:4;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:4, the fragment comprising eight contiguous amino acids of SEQ ID NO:4;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:3.

13. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:4;
- (b) a fragment of the amino acid sequence of SEQ ID NO:4, the fragment comprising eight contiguous amino acids of SEQ ID NO:4; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vp10\_1 deposited with the ATCC under accession number 207114;

the protein being substantially free from other mammalian proteins.

14. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:5;
- (b) the nucleotide sequence of SEQ ID NO:5 from nucleotide 149 to nucleotide 322;
- (c) the nucleotide sequence of SEQ ID NO:5 from nucleotide 200 to nucleotide 322;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vp11\_1 deposited with the ATCC under accession number 207114;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vp11\_1 deposited with the ATCC under accession number 207114;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vp11\_1 deposited with the ATCC under accession number 207114;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vp11\_1 deposited with the ATCC under accession number 207114;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:6;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:6, the fragment comprising eight contiguous amino acids of SEQ ID NO:6;

- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:5.

15. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:6;
- (b) a fragment of the amino acid sequence of SEQ ID NO:6, the fragment comprising eight contiguous amino acids of SEQ ID NO:6; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vp11\_1 deposited with the ATCC under accession number 207114; the protein being substantially free from other mammalian proteins.

16. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:7;
- (b) the nucleotide sequence of SEQ ID NO:7 from nucleotide 288 to nucleotide 629;
- (c) the nucleotide sequence of SEQ ID NO:7 from nucleotide 363 to nucleotide 629;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vp13\_1 deposited with the ATCC under accession number 207114;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vp13\_1 deposited with the ATCC under accession number 207114;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vp13\_1 deposited with the ATCC under accession number 207114;

- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vp13\_1 deposited with the ATCC under accession number 207114;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:8;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:8, the fragment comprising eight contiguous amino acids of SEQ ID NO:8;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:7.

17. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:8;
- (b) a fragment of the amino acid sequence of SEQ ID NO:8, the fragment comprising eight contiguous amino acids of SEQ ID NO:8; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vp13\_1 deposited with the ATCC under accession number 207114;

the protein being substantially free from other mammalian proteins.

18. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:9;
- (b) the nucleotide sequence of SEQ ID NO:9 from nucleotide 11 to nucleotide 298;
- (c) the nucleotide sequence of SEQ ID NO:9 from nucleotide 149 to nucleotide 298;

- (d) the nucleotide sequence of the full-length protein coding sequence of clone vp16\_1 deposited with the ATCC under accession number 207114;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vp16\_1 deposited with the ATCC under accession number 207114;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vp16\_1 deposited with the ATCC under accession number 207114;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vp16\_1 deposited with the ATCC under accession number 207114;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:10;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:10, the fragment comprising eight contiguous amino acids of SEQ ID NO:10;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:9.

19. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:10;
- (b) a fragment of the amino acid sequence of SEQ ID NO:10, the fragment comprising eight contiguous amino acids of SEQ ID NO:10; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vp16\_1 deposited with the ATCC under accession number 207114;

the protein being substantially free from other mammalian proteins.

20. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:11;
- (b) the nucleotide sequence of SEQ ID NO:11 from nucleotide 257 to nucleotide 607;
- (c) the nucleotide sequence of SEQ ID NO:11 from nucleotide 479 to nucleotide 607;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vp21\_1 deposited with the ATCC under accession number 207114;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vp21\_1 deposited with the ATCC under accession number 207114;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vp21\_1 deposited with the ATCC under accession number 207114;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vp21\_1 deposited with the ATCC under accession number 207114;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:12;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:12, the fragment comprising eight contiguous amino acids of SEQ ID NO:12;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:11.

21. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:12;
- (b) a fragment of the amino acid sequence of SEQ ID NO:12, the fragment comprising eight contiguous amino acids of SEQ ID NO:12; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vp21\_1 deposited with the ATCC under accession number 207114; the protein being substantially free from other mammalian proteins.

22. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:13;
- (b) the nucleotide sequence of SEQ ID NO:13 from nucleotide 163 to nucleotide 477;
- (c) the nucleotide sequence of SEQ ID NO:13 from nucleotide 238 to nucleotide 477;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vp22\_1 deposited with the ATCC under accession number 207114;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vp22\_1 deposited with the ATCC under accession number 207114;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vp22\_1 deposited with the ATCC under accession number 207114;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vp22\_1 deposited with the ATCC under accession number 207114;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:14;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:14, the fragment comprising eight contiguous amino acids of SEQ ID NO:14;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and

(k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:13.

23. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:14;
- (b) a fragment of the amino acid sequence of SEQ ID NO:14, the fragment comprising eight contiguous amino acids of SEQ ID NO:14; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vp22\_1 deposited with the ATCC under accession number 207114; the protein being substantially free from other mammalian proteins.

24. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:15;
- (b) the nucleotide sequence of SEQ ID NO:15 from nucleotide 58 to nucleotide 624;
- (c) the nucleotide sequence of SEQ ID NO:15 from nucleotide 106 to nucleotide 624;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vq2\_1 deposited with the ATCC under accession number 207114;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vq2\_1 deposited with the ATCC under accession number 207114;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vq2\_1 deposited with the ATCC under accession number 207114;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vq2\_1 deposited with the ATCC under accession number 207114;

- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:16;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:16, the fragment comprising eight contiguous amino acids of SEQ ID NO:16;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:15.

25. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:16;
- (b) a fragment of the amino acid sequence of SEQ ID NO:16, the fragment comprising eight contiguous amino acids of SEQ ID NO:16; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vq2\_1 deposited with the ATCC under accession number 207114; the protein being substantially free from other mammalian proteins.

26. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:17;
- (b) the nucleotide sequence of SEQ ID NO:17 from nucleotide 773 to nucleotide 1090;
- (c) the nucleotide sequence of SEQ ID NO:17 from nucleotide 842 to nucleotide 1090;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vq3\_1 deposited with the ATCC under accession number 207114;

- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vq3\_1 deposited with the ATCC under accession number 207114;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vq3\_1 deposited with the ATCC under accession number 207114;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vq3\_1 deposited with the ATCC under accession number 207114;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:18;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:18, the fragment comprising eight contiguous amino acids of SEQ ID NO:18;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:17.

27. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:18;
- (b) a fragment of the amino acid sequence of SEQ ID NO:18, the fragment comprising eight contiguous amino acids of SEQ ID NO:18; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vq3\_1 deposited with the ATCC under accession number 207114;

the protein being substantially free from other mammalian proteins.

28. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:19;
- (b) the nucleotide sequence of SEQ ID NO:19 from nucleotide 96 to nucleotide 275;
- (c) the nucleotide sequence of SEQ ID NO:19 from nucleotide 159 to nucleotide 275;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vq5\_1 deposited with the ATCC under accession number 207114;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vq5\_1 deposited with the ATCC under accession number 207114;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vq5\_1 deposited with the ATCC under accession number 207114;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vq5\_1 deposited with the ATCC under accession number 207114;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:20;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:20, the fragment comprising eight contiguous amino acids of SEQ ID NO:20;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:19.

29. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:20;

(b) a fragment of the amino acid sequence of SEQ ID NO:20, the fragment comprising eight contiguous amino acids of SEQ ID NO:20; and  
(c) the amino acid sequence encoded by the cDNA insert of clone vq5\_1 deposited with the ATCC under accession number 207114; the protein being substantially free from other mammalian proteins.

30. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:21;
- (b) the nucleotide sequence of SEQ ID NO:21 from nucleotide 176 to nucleotide 340;
- (c) the nucleotide sequence of SEQ ID NO:21 from nucleotide 230 to nucleotide 340;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vq6\_1 deposited with the ATCC under accession number 207114;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vq6\_1 deposited with the ATCC under accession number 207114;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vq6\_1 deposited with the ATCC under accession number 207114;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vq6\_1 deposited with the ATCC under accession number 207114;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:22;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:22, the fragment comprising eight contiguous amino acids of SEQ ID NO:22;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and

(k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:21.

31. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:22;
- (b) a fragment of the amino acid sequence of SEQ ID NO:22, the fragment comprising eight contiguous amino acids of SEQ ID NO:22; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vq6\_1 deposited with the ATCC under accession number 207114;

the protein being substantially free from other mammalian proteins.

32. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:23;
- (b) the nucleotide sequence of SEQ ID NO:23 from nucleotide 29 to nucleotide 1111;
- (c) the nucleotide sequence of SEQ ID NO:23 from nucleotide 167 to nucleotide 1111;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vr1\_1 deposited with the ATCC under accession number 207114;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vr1\_1 deposited with the ATCC under accession number 207114;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vr1\_1 deposited with the ATCC under accession number 207114;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vr1\_1 deposited with the ATCC under accession number 207114;

- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:24;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:24, the fragment comprising eight contiguous amino acids of SEQ ID NO:24;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:23.

33. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:24;
- (b) a fragment of the amino acid sequence of SEQ ID NO:24, the fragment comprising eight contiguous amino acids of SEQ ID NO:24; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vr1\_1 deposited with the ATCC under accession number 207114;

the protein being substantially free from other mammalian proteins.

34. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:25;
- (b) the nucleotide sequence of SEQ ID NO:25 from nucleotide 13 to nucleotide 513;
- (c) the nucleotide sequence of the full-length protein coding sequence of clone vc63\_1 deposited with the ATCC under accession number 207115;
- (d) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vc63\_1 deposited with the ATCC under accession number 207115;

- (e) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:26;
- (f) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:26, the fragment comprising eight contiguous amino acids of SEQ ID NO:26;
- (g) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(d); and
- (h) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(d), and that has a length that is at least 25% of the length of SEQ ID NO:25.

35. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:26;
- (b) a fragment of the amino acid sequence of SEQ ID NO:26, the fragment comprising eight contiguous amino acids of SEQ ID NO:26; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vc63\_1 deposited with the ATCC under accession number 207115;

the protein being substantially free from other mammalian proteins.

36. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:27;
- (b) the nucleotide sequence of SEQ ID NO:27 from nucleotide 79 to nucleotide 345;
- (c) the nucleotide sequence of SEQ ID NO:27 from nucleotide 130 to nucleotide 345;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vb25\_1 deposited with the ATCC under accession number PTA-362;

- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vb25\_1 deposited with the ATCC under accession number PTA-362;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vb25\_1 deposited with the ATCC under accession number PTA-362;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vb25\_1 deposited with the ATCC under accession number PTA-362;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:28;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:28, the fragment comprising eight contiguous amino acids of SEQ ID NO:28;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:27.

37. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:28;
- (b) a fragment of the amino acid sequence of SEQ ID NO:28, the fragment comprising eight contiguous amino acids of SEQ ID NO:28; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vb25\_1 deposited with the ATCC under accession number PTA-362;

the protein being substantially free from other mammalian proteins.

38. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:29;
- (b) the nucleotide sequence of SEQ ID NO:29 from nucleotide 72 to nucleotide 236;
- (c) the nucleotide sequence of SEQ ID NO:29 from nucleotide 150 to nucleotide 236;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vb27\_1 deposited with the ATCC under accession number PTA-362;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vb27\_1 deposited with the ATCC under accession number PTA-362;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vb27\_1 deposited with the ATCC under accession number PTA-362;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vb27\_1 deposited with the ATCC under accession number PTA-362;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:30;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:30, the fragment comprising eight contiguous amino acids of SEQ ID NO:30;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:29.

39. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:30;

- (b) a fragment of the amino acid sequence of SEQ ID NO:30, the fragment comprising eight contiguous amino acids of SEQ ID NO:30; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vb27\_1 deposited with the ATCC under accession number PTA-362; the protein being substantially free from other mammalian proteins.

40. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:31;
- (b) the nucleotide sequence of SEQ ID NO:31 from nucleotide 135 to nucleotide 884;
- (c) the nucleotide sequence of SEQ ID NO:31 from nucleotide 183 to nucleotide 884;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vb28\_1 deposited with the ATCC under accession number PTA-362;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vb28\_1 deposited with the ATCC under accession number PTA-362;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vb28\_1 deposited with the ATCC under accession number PTA-362;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vb28\_1 deposited with the ATCC under accession number PTA-362;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:32;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:32, the fragment comprising eight contiguous amino acids of SEQ ID NO:32;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and

(k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:31.

41. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:32;
- (b) a fragment of the amino acid sequence of SEQ ID NO:32, the fragment comprising eight contiguous amino acids of SEQ ID NO:32; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vb28\_1 deposited with the ATCC under accession number PTA-362;

the protein being substantially free from other mammalian proteins.

42. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:33;
- (b) the nucleotide sequence of SEQ ID NO:33 from nucleotide 42 to nucleotide 206;
- (c) the nucleotide sequence of SEQ ID NO:33 from nucleotide 111 to nucleotide 206;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vb29\_1 deposited with the ATCC under accession number PTA-362;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vb29\_1 deposited with the ATCC under accession number PTA-362;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vb29\_1 deposited with the ATCC under accession number PTA-362;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vb29\_1 deposited with the ATCC under accession number PTA-362;

- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:34;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:34, the fragment comprising eight contiguous amino acids of SEQ ID NO:34;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:33.

43. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:34;
- (b) a fragment of the amino acid sequence of SEQ ID NO:34, the fragment comprising eight contiguous amino acids of SEQ ID NO:34; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vb29\_1 deposited with the ATCC under accession number PTA-362;

the protein being substantially free from other mammalian proteins.

44. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) a polynucleotide comprising the nucleotide sequence of SEQ ID NO:35;
- (b) a polynucleotide comprising the nucleotide sequence of SEQ ID NO:35 from nucleotide 17 to nucleotide 253;
- (c) a polynucleotide comprising the nucleotide sequence of SEQ ID NO:35 from nucleotide 98 to nucleotide 253;

- (d) a polynucleotide comprising the nucleotide sequence of the full-length protein coding sequence of clone vb30\_1 deposited with the ATCC under accession number PTA-362;
- (e) a polynucleotide encoding the full-length protein encoded by the cDNA insert of clone vb30\_1 deposited with the ATCC under accession number PTA-362;
- (f) a polynucleotide comprising the nucleotide sequence of a mature protein coding sequence of clone vb30\_1 deposited with the ATCC under accession number PTA-362;
- (g) a polynucleotide encoding a mature protein encoded by the cDNA insert of clone vb30\_1 deposited with the ATCC under accession number PTA-362;
- (h) a polynucleotide encoding a protein comprising the amino acid sequence of SEQ ID NO:36;
- (i) a polynucleotide encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:36 having biological activity, the fragment comprising eight contiguous amino acids of SEQ ID NO:36;
- (j) a polynucleotide which is an allelic variant of a polynucleotide of (a)-(g) above;
- (k) a polynucleotide which encodes a species homologue of the protein of (h) or (i) above ;
- (l) a polynucleotide that hybridizes under stringent conditions to any one of the polynucleotides specified in (a)-(i); and
- (m) a polynucleotide that hybridizes under stringent conditions to any one of the polynucleotides specified in (a)-(i) and that has a length that is at least 25% of the length of SEQ ID NO:35.

45. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:36;
- (b) a fragment of the amino acid sequence of SEQ ID NO:36, the fragment comprising eight contiguous amino acids of SEQ ID NO:36; and

(c) the amino acid sequence encoded by the cDNA insert of clone vb30\_1 deposited with the ATCC under accession number PTA-362; the protein being substantially free from other mammalian proteins.

46. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:37;
- (b) the nucleotide sequence of SEQ ID NO:37 from nucleotide 68 to nucleotide 424;
- (c) the nucleotide sequence of the full-length protein coding sequence of clone vc67\_1 deposited with the ATCC under accession number PTA-362;
- (d) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vc67\_1 deposited with the ATCC under accession number PTA-362;
- (e) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:38;
- (f) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:38, the fragment comprising eight contiguous amino acids of SEQ ID NO:38;
- (g) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(d); and
- (h) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(d), and that has a length that is at least 25% of the length of SEQ ID NO:37.

47. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:38;
- (b) a fragment of the amino acid sequence of SEQ ID NO:38, the fragment comprising eight contiguous amino acids of SEQ ID NO:38; and

(c) the amino acid sequence encoded by the cDNA insert of clone vc67\_1 deposited with the ATCC under accession number PTA-362; the protein being substantially free from other mammalian proteins.

48. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:39;
- (b) the nucleotide sequence of SEQ ID NO:39 from nucleotide 103 to nucleotide 261;
- (c) the nucleotide sequence of SEQ ID NO:39 from nucleotide 154 to nucleotide 261;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vf4\_1 deposited with the ATCC under accession number PTA-362;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vf4\_1 deposited with the ATCC under accession number PTA-362;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vf4\_1 deposited with the ATCC under accession number PTA-362;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vf4\_1 deposited with the ATCC under accession number PTA-362;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:40;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:40, the fragment comprising eight contiguous amino acids of SEQ ID NO:40;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees

C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:39.

49. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:40;
- (b) a fragment of the amino acid sequence of SEQ ID NO:40, the fragment comprising eight contiguous amino acids of SEQ ID NO:40; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vf4\_1 deposited with the ATCC under accession number PTA-362;

the protein being substantially free from other mammalian proteins.

50. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:41;
- (b) the nucleotide sequence of SEQ ID NO:41 from nucleotide 1575 to nucleotide 3038;
- (c) the nucleotide sequence of SEQ ID NO:41 from nucleotide 1650 to nucleotide 3038;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vg3\_1 deposited with the ATCC under accession number PTA-362;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vg3\_1 deposited with the ATCC under accession number PTA-362;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vg3\_1 deposited with the ATCC under accession number PTA-362;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vg3\_1 deposited with the ATCC under accession number PTA-362;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:42;

- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:42, the fragment comprising eight contiguous amino acids of SEQ ID NO:42;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:41.

51. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:42;
- (b) a fragment of the amino acid sequence of SEQ ID NO:42, the fragment comprising eight contiguous amino acids of SEQ ID NO:42; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vg3\_1 deposited with the ATCC under accession number PTA-362;

the protein being substantially free from other mammalian proteins.

52. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:43;
- (b) the nucleotide sequence of SEQ ID NO:43 from nucleotide 2112 to nucleotide 2363;
- (c) the nucleotide sequence of the full-length protein coding sequence of clone vo2\_1 deposited with the ATCC under accession number PTA-362;
- (d) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vo2\_1 deposited with the ATCC under accession number PTA-362;
- (e) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:44;

- (f) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:44, the fragment comprising eight contiguous amino acids of SEQ ID NO:44;
- (g) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(d); and
- (h) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(d), and that has a length that is at least 25% of the length of SEQ ID NO:43.

53. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:44;
- (b) a fragment of the amino acid sequence of SEQ ID NO:44, the fragment comprising eight contiguous amino acids of SEQ ID NO:44; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vo2\_1 deposited with the ATCC under accession number PTA-362;

the protein being substantially free from other mammalian proteins.

54. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:45;
- (b) the nucleotide sequence of SEQ ID NO:45 from nucleotide 36 to nucleotide 707;
- (c) the nucleotide sequence of SEQ ID NO:45 from nucleotide 393 to nucleotide 707;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vo3\_1 deposited with the ATCC under accession number PTA-362;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vo3\_1 deposited with the ATCC under accession number PTA-362;

- (f) the nucleotide sequence of a mature protein coding sequence of clone vo3\_1 deposited with the ATCC under accession number PTA-362;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vo3\_1 deposited with the ATCC under accession number PTA-362;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:46;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:46, the fragment comprising eight contiguous amino acids of SEQ ID NO:46;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:45.

55. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:46;
- (b) a fragment of the amino acid sequence of SEQ ID NO:46, the fragment comprising eight contiguous amino acids of SEQ ID NO:46; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vo3\_1 deposited with the ATCC under accession number PTA-362;

the protein being substantially free from other mammalian proteins.

56. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:47;
- (b) the nucleotide sequence of SEQ ID NO:47 from nucleotide 74 to nucleotide 295;

- (c) the nucleotide sequence of SEQ ID NO:47 from nucleotide 134 to nucleotide 295;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vo5\_1 deposited with the ATCC under accession number PTA-362;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vo5\_1 deposited with the ATCC under accession number PTA-362;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vo5\_1 deposited with the ATCC under accession number PTA-362;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vo5\_1 deposited with the ATCC under accession number PTA-362;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:48;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:48, the fragment comprising eight contiguous amino acids of SEQ ID NO:48;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:47.

57. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:48;
- (b) a fragment of the amino acid sequence of SEQ ID NO:48, the fragment comprising eight contiguous amino acids of SEQ ID NO:48; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vo5\_1 deposited with the ATCC under accession number PTA-362;

the protein being substantially free from other mammalian proteins.

58. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:49;
- (b) the nucleotide sequence of SEQ ID NO:49 from nucleotide 45 to nucleotide 383;
- (c) the nucleotide sequence of SEQ ID NO:49 from nucleotide 312 to nucleotide 383;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vo6\_1 deposited with the ATCC under accession number PTA-362;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vo6\_1 deposited with the ATCC under accession number PTA-362;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vo6\_1 deposited with the ATCC under accession number PTA-362;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vo6\_1 deposited with the ATCC under accession number PTA-362;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:50;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:50, the fragment comprising eight contiguous amino acids of SEQ ID NO:50;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:49.

59. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:50;
- (b) a fragment of the amino acid sequence of SEQ ID NO:50, the fragment comprising eight contiguous amino acids of SEQ ID NO:50; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vo6\_1 deposited with the ATCC under accession number PTA-362;

the protein being substantially free from other mammalian proteins.

60. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:51;
- (b) the nucleotide sequence of SEQ ID NO:51 from nucleotide 186 to nucleotide 1739;
- (c) the nucleotide sequence of SEQ ID NO:51 from nucleotide 288 to nucleotide 1739;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vo9\_1 deposited with the ATCC under accession number PTA-362;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vo9\_1 deposited with the ATCC under accession number PTA-362;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vo9\_1 deposited with the ATCC under accession number PTA-362;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vo9\_1 deposited with the ATCC under accession number PTA-362;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:52;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:52, the fragment comprising eight contiguous amino acids of SEQ ID NO:52;

(j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and

(k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:51.

61. A protein comprising an amino acid sequence selected from the group consisting of:

(a) the amino acid sequence of SEQ ID NO:52;

(b) a fragment of the amino acid sequence of SEQ ID NO:52, the fragment comprising eight contiguous amino acids of SEQ ID NO:52; and

(c) the amino acid sequence encoded by the cDNA insert of clone vo9\_1 deposited with the ATCC under accession number PTA-362;

the protein being substantially free from other mammalian proteins.

62. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

(a) the nucleotide sequence of SEQ ID NO:53;

(b) the nucleotide sequence of SEQ ID NO:53 from nucleotide 440 to nucleotide 835;

(c) the nucleotide sequence of SEQ ID NO:53 from nucleotide 632 to nucleotide 835;

(d) the nucleotide sequence of the full-length protein coding sequence of clone vo11\_1 deposited with the ATCC under accession number PTA-366;

(e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vo11\_1 deposited with the ATCC under accession number PTA-366;

(f) the nucleotide sequence of a mature protein coding sequence of clone vo11\_1 deposited with the ATCC under accession number PTA-366;

- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone v011\_1 deposited with the ATCC under accession number PTA-366;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:54;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:54, the fragment comprising eight contiguous amino acids of SEQ ID NO:54;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:53.

63. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:54;
- (b) a fragment of the amino acid sequence of SEQ ID NO:54, the fragment comprising eight contiguous amino acids of SEQ ID NO:54; and
- (c) the amino acid sequence encoded by the cDNA insert of clone v011\_1 deposited with the ATCC under accession number PTA-366;

the protein being substantially free from other mammalian proteins.

64. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:55;
- (b) the nucleotide sequence of SEQ ID NO:55 from nucleotide 72 to nucleotide 329;
- (c) the nucleotide sequence of SEQ ID NO:55 from nucleotide 120 to nucleotide 329;

- (d) the nucleotide sequence of the full-length protein coding sequence of clone vo12\_1 deposited with the ATCC under accession number PTA-366;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vo12\_1 deposited with the ATCC under accession number PTA-366;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vo12\_1 deposited with the ATCC under accession number PTA-366;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vo12\_1 deposited with the ATCC under accession number PTA-366;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:56;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:56, the fragment comprising eight contiguous amino acids of SEQ ID NO:56;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:55.

65. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:56;
- (b) a fragment of the amino acid sequence of SEQ ID NO:56, the fragment comprising eight contiguous amino acids of SEQ ID NO:56; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vo12\_1 deposited with the ATCC under accession number PTA-366;

the protein being substantially free from other mammalian proteins.

66. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:57;
- (b) the nucleotide sequence of SEQ ID NO:57 from nucleotide 227 to nucleotide 439;
- (c) the nucleotide sequence of SEQ ID NO:57 from nucleotide 287 to nucleotide 439;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vo13\_1 deposited with the ATCC under accession number PTA-366;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vo13\_1 deposited with the ATCC under accession number PTA-366;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vo13\_1 deposited with the ATCC under accession number PTA-366;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vo13\_1 deposited with the ATCC under accession number PTA-366;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:58;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:58, the fragment comprising eight contiguous amino acids of SEQ ID NO:58;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:57.

67. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:58;
- (b) a fragment of the amino acid sequence of SEQ ID NO:58, the fragment comprising eight contiguous amino acids of SEQ ID NO:58; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vo13\_1 deposited with the ATCC under accession number PTA-366; the protein being substantially free from other mammalian proteins.

68. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:59;
- (b) the nucleotide sequence of SEQ ID NO:59 from nucleotide 96 to nucleotide 341;
- (c) the nucleotide sequence of SEQ ID NO:59 from nucleotide 174 to nucleotide 341;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vo14\_1 deposited with the ATCC under accession number PTA-366;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vo14\_1 deposited with the ATCC under accession number PTA-366;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vo14\_1 deposited with the ATCC under accession number PTA-366;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vo14\_1 deposited with the ATCC under accession number PTA-366;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:60;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:60, the fragment comprising eight contiguous amino acids of SEQ ID NO:60;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and

(k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:59.

69. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:60;
- (b) a fragment of the amino acid sequence of SEQ ID NO:60, the fragment comprising eight contiguous amino acids of SEQ ID NO:60; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vo14\_1 deposited with the ATCC under accession number PTA-366;

the protein being substantially free from other mammalian proteins.

70. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:61;
- (b) the nucleotide sequence of SEQ ID NO:61 from nucleotide 90 to nucleotide 599;
- (c) the nucleotide sequence of SEQ ID NO:61 from nucleotide 165 to nucleotide 599;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vo15\_1 deposited with the ATCC under accession number PTA-366;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vo15\_1 deposited with the ATCC under accession number PTA-366;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vo15\_1 deposited with the ATCC under accession number PTA-366;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vo15\_1 deposited with the ATCC under accession number PTA-366;

- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:62;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:62, the fragment comprising eight contiguous amino acids of SEQ ID NO:62;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:61.

71. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:62;
- (b) a fragment of the amino acid sequence of SEQ ID NO:62, the fragment comprising eight contiguous amino acids of SEQ ID NO:62; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vo15\_1 deposited with the ATCC under accession number PTA-366; the protein being substantially free from other mammalian proteins.

72. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:63;
- (b) the nucleotide sequence of SEQ ID NO:63 from nucleotide 209 to nucleotide 451;
- (c) the nucleotide sequence of SEQ ID NO:63 from nucleotide 398 to nucleotide 451;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vo16\_1 deposited with the ATCC under accession number PTA-366;

- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vo16\_1 deposited with the ATCC under accession number PTA-366;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vo16\_1 deposited with the ATCC under accession number PTA-366;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vo16\_1 deposited with the ATCC under accession number PTA-366;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:64;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:64, the fragment comprising eight contiguous amino acids of SEQ ID NO:64;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:63.

73. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:64;
- (b) a fragment of the amino acid sequence of SEQ ID NO:64, the fragment comprising eight contiguous amino acids of SEQ ID NO:64; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vo16\_1 deposited with the ATCC under accession number PTA-366;

the protein being substantially free from other mammalian proteins.

74. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:65;
- (b) the nucleotide sequence of SEQ ID NO:65 from nucleotide 31 to nucleotide 231;
- (c) the nucleotide sequence of SEQ ID NO:65 from nucleotide 97 to nucleotide 231;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vo18\_1 deposited with the ATCC under accession number PTA-366;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vo18\_1 deposited with the ATCC under accession number PTA-366;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vo18\_1 deposited with the ATCC under accession number PTA-366;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vo18\_1 deposited with the ATCC under accession number PTA-366;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:66;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:66, the fragment comprising eight contiguous amino acids of SEQ ID NO:66;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:65.

75. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:66;

- (b) a fragment of the amino acid sequence of SEQ ID NO:66, the fragment comprising eight contiguous amino acids of SEQ ID NO:66; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vo18\_1 deposited with the ATCC under accession number PTA-366; the protein being substantially free from other mammalian proteins.

76. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:67;
- (b) the nucleotide sequence of SEQ ID NO:67 from nucleotide 23 to nucleotide 736;
- (c) the nucleotide sequence of SEQ ID NO:67 from nucleotide 83 to nucleotide 736;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vo19\_1 deposited with the ATCC under accession number PTA-366;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vo19\_1 deposited with the ATCC under accession number PTA-366;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vo19\_1 deposited with the ATCC under accession number PTA-366;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vo19\_1 deposited with the ATCC under accession number PTA-366;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:68;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:68, the fragment comprising eight contiguous amino acids of SEQ ID NO:68;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and

(k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:67.

77. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:68;
- (b) a fragment of the amino acid sequence of SEQ ID NO:68, the fragment comprising eight contiguous amino acids of SEQ ID NO:68; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vo19\_1 deposited with the ATCC under accession number PTA-366;

the protein being substantially free from other mammalian proteins.

78. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:69;
- (b) the nucleotide sequence of SEQ ID NO:69 from nucleotide 104 to nucleotide 1399;
- (c) the nucleotide sequence of SEQ ID NO:69 from nucleotide 158 to nucleotide 1399;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vo22\_1 deposited with the ATCC under accession number PTA-366;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vo22\_1 deposited with the ATCC under accession number PTA-366;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vo22\_1 deposited with the ATCC under accession number PTA-366;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vo22\_1 deposited with the ATCC under accession number PTA-366;

- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:70;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:70, the fragment comprising eight contiguous amino acids of SEQ ID NO:70;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:69.

79. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:70;
- (b) a fragment of the amino acid sequence of SEQ ID NO:70, the fragment comprising eight contiguous amino acids of SEQ ID NO:70; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vo22\_1 deposited with the ATCC under accession number PTA-366;

the protein being substantially free from other mammalian proteins.

80. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:71;
- (b) the nucleotide sequence of SEQ ID NO:71 from nucleotide 174 to nucleotide 1595;
- (c) the nucleotide sequence of the full-length protein coding sequence of clone vo23\_1 deposited with the ATCC under accession number PTA-366;
- (d) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vo23\_1 deposited with the ATCC under accession number PTA-366;

- (e) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:72;
- (f) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:72, the fragment comprising eight contiguous amino acids of SEQ ID NO:72;
- (g) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(d); and
- (h) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(d), and that has a length that is at least 25% of the length of SEQ ID NO:71.

81. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:72;
- (b) a fragment of the amino acid sequence of SEQ ID NO:72, the fragment comprising eight contiguous amino acids of SEQ ID NO:72; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vo23\_1 deposited with the ATCC under accession number PTA-366;

the protein being substantially free from other mammalian proteins.

82. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:73;
- (b) the nucleotide sequence of SEQ ID NO:73 from nucleotide 129 to nucleotide 311;
- (c) the nucleotide sequence of SEQ ID NO:73 from nucleotide 195 to nucleotide 311;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vo24\_1 deposited with the ATCC under accession number PTA-366;

- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vo24\_1 deposited with the ATCC under accession number PTA-366;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vo24\_1 deposited with the ATCC under accession number PTA-366;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vo24\_1 deposited with the ATCC under accession number PTA-366;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:74;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:74, the fragment comprising eight contiguous amino acids of SEQ ID NO:74;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:73.

83. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:74;
- (b) a fragment of the amino acid sequence of SEQ ID NO:74, the fragment comprising eight contiguous amino acids of SEQ ID NO:74; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vo24\_1 deposited with the ATCC under accession number PTA-366;

the protein being substantially free from other mammalian proteins.

84. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:75;
- (b) the nucleotide sequence of SEQ ID NO:75 from nucleotide 73 to nucleotide 798;
- (c) the nucleotide sequence of SEQ ID NO:75 from nucleotide 142 to nucleotide 798;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vo25\_1 deposited with the ATCC under accession number PTA-366;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vo25\_1 deposited with the ATCC under accession number PTA-366;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vo25\_1 deposited with the ATCC under accession number PTA-366;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vo25\_1 deposited with the ATCC under accession number PTA-366;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:76;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:76, the fragment comprising eight contiguous amino acids of SEQ ID NO:76;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:75.

85. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:76;

(b) a fragment of the amino acid sequence of SEQ ID NO:76, the fragment comprising eight contiguous amino acids of SEQ ID NO:76; and  
(c) the amino acid sequence encoded by the cDNA insert of clone vo25\_1 deposited with the ATCC under accession number PTA-366; the protein being substantially free from other mammalian proteins.

86. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:27;
- (b) the nucleotide sequence of SEQ ID NO:27 from nucleotide 26 to nucleotide 307;
- (c) the nucleotide sequence of SEQ ID NO:27 from nucleotide 101 to nucleotide 307;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vo26\_1 deposited with the ATCC under accession number PTA-366;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vo26\_1 deposited with the ATCC under accession number PTA-366;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vo26\_1 deposited with the ATCC under accession number PTA-366;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vo26\_1 deposited with the ATCC under accession number PTA-366;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:78;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:78, the fragment comprising eight contiguous amino acids of SEQ ID NO:78;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and

(k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:27.

87. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:78;
- (b) a fragment of the amino acid sequence of SEQ ID NO:78, the fragment comprising eight contiguous amino acids of SEQ ID NO:78; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vp26\_1 deposited with the ATCC under accession number PTA-366; the protein being substantially free from other mammalian proteins.

88. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:79;
- (b) the nucleotide sequence of SEQ ID NO:79 from nucleotide 43 to nucleotide 228;
- (c) the nucleotide sequence of SEQ ID NO:79 from nucleotide 94 to nucleotide 228;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vp23\_1 deposited with the ATCC under accession number PTA-368;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vp23\_1 deposited with the ATCC under accession number PTA-368;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vp23\_1 deposited with the ATCC under accession number PTA-368;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vp23\_1 deposited with the ATCC under accession number PTA-368;

- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:80;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:80, the fragment comprising eight contiguous amino acids of SEQ ID NO:80;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:79.

89. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:80;
- (b) a fragment of the amino acid sequence of SEQ ID NO:80, the fragment comprising eight contiguous amino acids of SEQ ID NO:80; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vp23\_1 deposited with the ATCC under accession number PTA-368; the protein being substantially free from other mammalian proteins.

90. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:81;
- (b) the nucleotide sequence of SEQ ID NO:81 from nucleotide 245 to nucleotide 427;
- (c) the nucleotide sequence of SEQ ID NO:81 from nucleotide 308 to nucleotide 427;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vq7\_1 deposited with the ATCC under accession number PTA-368;

- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vq7\_1 deposited with the ATCC under accession number PTA-368;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vq7\_1 deposited with the ATCC under accession number PTA-368;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vq7\_1 deposited with the ATCC under accession number PTA-368;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:82;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:82, the fragment comprising eight contiguous amino acids of SEQ ID NO:82;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:81.

91. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:82;
- (b) a fragment of the amino acid sequence of SEQ ID NO:82, the fragment comprising eight contiguous amino acids of SEQ ID NO:82; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vq7\_1 deposited with the ATCC under accession number PTA-368;

the protein being substantially free from other mammalian proteins.

92. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:83;
- (b) the nucleotide sequence of SEQ ID NO:83 from nucleotide 119 to nucleotide 475;
- (c) the nucleotide sequence of SEQ ID NO:83 from nucleotide 185 to nucleotide 475;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vq8\_1 deposited with the ATCC under accession number PTA-368;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vq8\_1 deposited with the ATCC under accession number PTA-368;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vq8\_1 deposited with the ATCC under accession number PTA-368;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vq8\_1 deposited with the ATCC under accession number PTA-368;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:84;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:84, the fragment comprising eight contiguous amino acids of SEQ ID NO:84;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:83.

93. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:84;

(b) a fragment of the amino acid sequence of SEQ ID NO:84, the fragment comprising eight contiguous amino acids of SEQ ID NO:84; and

(c) the amino acid sequence encoded by the cDNA insert of clone vq8\_1 deposited with the ATCC under accession number PTA-368;

the protein being substantially free from other mammalian proteins.

94. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

(a) the nucleotide sequence of SEQ ID NO:85;

(b) the nucleotide sequence of SEQ ID NO:85 from nucleotide 90 to nucleotide 323;

(c) the nucleotide sequence of SEQ ID NO:85 from nucleotide 141 to nucleotide 323;

(d) the nucleotide sequence of the full-length protein coding sequence of clone vq9\_1 deposited with the ATCC under accession number PTA-368;

(e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vq9\_1 deposited with the ATCC under accession number PTA-368;

(f) the nucleotide sequence of a mature protein coding sequence of clone vq9\_1 deposited with the ATCC under accession number PTA-368;

(g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vq9\_1 deposited with the ATCC under accession number PTA-368;

(h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:86;

(i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:86, the fragment comprising eight contiguous amino acids of SEQ ID NO:86;

(j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and

(k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:85.

95. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:86;
- (b) a fragment of the amino acid sequence of SEQ ID NO:86, the fragment comprising eight contiguous amino acids of SEQ ID NO:86; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vq9\_1 deposited with the ATCC under accession number PTA-368;

the protein being substantially free from other mammalian proteins.

96. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:87;
- (b) the nucleotide sequence of SEQ ID NO:87 from nucleotide 18 to nucleotide 452;
- (c) the nucleotide sequence of SEQ ID NO:87 from nucleotide 72 to nucleotide 452;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vq10\_1 deposited with the ATCC under accession number PTA-368;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vq10\_1 deposited with the ATCC under accession number PTA-368;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vq10\_1 deposited with the ATCC under accession number PTA-368;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vq10\_1 deposited with the ATCC under accession number PTA-368;

- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:88;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:88, the fragment comprising eight contiguous amino acids of SEQ ID NO:88;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:87.

97. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:88;
- (b) a fragment of the amino acid sequence of SEQ ID NO:88, the fragment comprising eight contiguous amino acids of SEQ ID NO:88; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vq10\_1 deposited with the ATCC under accession number PTA-368;

the protein being substantially free from other mammalian proteins.

98. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:89;
- (b) the nucleotide sequence of SEQ ID NO:89 from nucleotide 196 to nucleotide 378;
- (c) the nucleotide sequence of SEQ ID NO:89 from nucleotide 262 to nucleotide 378;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vq13\_1 deposited with the ATCC under accession number PTA-368;

- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vq13\_1 deposited with the ATCC under accession number PTA-368;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vq13\_1 deposited with the ATCC under accession number PTA-368;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vq13\_1 deposited with the ATCC under accession number PTA-368;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:90;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:90, the fragment comprising eight contiguous amino acids of SEQ ID NO:90;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:89.

99. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:90;
- (b) a fragment of the amino acid sequence of SEQ ID NO:90, the fragment comprising eight contiguous amino acids of SEQ ID NO:90; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vq13\_1 deposited with the ATCC under accession number PTA-368;

the protein being substantially free from other mammalian proteins.

100. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:91;
- (b) the nucleotide sequence of SEQ ID NO:91 from nucleotide 35 to nucleotide 718;
- (c) the nucleotide sequence of SEQ ID NO:91 from nucleotide 173 to nucleotide 718;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vq16\_1 deposited with the ATCC under accession number PTA-368;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vq16\_1 deposited with the ATCC under accession number PTA-368;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vq16\_1 deposited with the ATCC under accession number PTA-368;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vq16\_1 deposited with the ATCC under accession number PTA-368;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:92;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:92, the fragment comprising eight contiguous amino acids of SEQ ID NO:92;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:91.

101. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:92;

(b) a fragment of the amino acid sequence of SEQ ID NO:92, the fragment comprising eight contiguous amino acids of SEQ ID NO:92; and

(c) the amino acid sequence encoded by the cDNA insert of clone vq16\_1 deposited with the ATCC under accession number PTA-368;

the protein being substantially free from other mammalian proteins.

102. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

(a) the nucleotide sequence of SEQ ID NO:93;

(b) the nucleotide sequence of SEQ ID NO:93 from nucleotide 1 to nucleotide 762;

(c) the nucleotide sequence of SEQ ID NO:93 from nucleotide 70 to nucleotide 762;

(d) the nucleotide sequence of the full-length protein coding sequence of clone vq19\_1 deposited with the ATCC under accession number PTA-368;

(e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vq19\_1 deposited with the ATCC under accession number PTA-368;

(f) the nucleotide sequence of a mature protein coding sequence of clone vq19\_1 deposited with the ATCC under accession number PTA-368;

(g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vq19\_1 deposited with the ATCC under accession number PTA-368;

(h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:94;

(i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:94, the fragment comprising eight contiguous amino acids of SEQ ID NO:94;

(j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and

(k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:93.

103. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:94;
- (b) a fragment of the amino acid sequence of SEQ ID NO:94, the fragment comprising eight contiguous amino acids of SEQ ID NO:94; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vq19\_1 deposited with the ATCC under accession number PTA-368;

the protein being substantially free from other mammalian proteins.

104. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:95;
- (b) the nucleotide sequence of SEQ ID NO:95 from nucleotide 106 to nucleotide 792;
- (c) the nucleotide sequence of SEQ ID NO:95 from nucleotide 172 to nucleotide 792;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vq20\_1 deposited with the ATCC under accession number PTA-368;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vq20\_1 deposited with the ATCC under accession number PTA-368;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vq20\_1 deposited with the ATCC under accession number PTA-368;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vq20\_1 deposited with the ATCC under accession number PTA-368;

- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:96;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:96, the fragment comprising eight contiguous amino acids of SEQ ID NO:96;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:95.

105. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:96;
- (b) a fragment of the amino acid sequence of SEQ ID NO:96, the fragment comprising eight contiguous amino acids of SEQ ID NO:96; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vq20\_1 deposited with the ATCC under accession number PTA-368; the protein being substantially free from other mammalian proteins.

106. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:97;
- (b) the nucleotide sequence of SEQ ID NO:97 from nucleotide 40 to nucleotide 315;
- (c) the nucleotide sequence of SEQ ID NO:97 from nucleotide 124 to nucleotide 315;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vq21\_1 deposited with the ATCC under accession number PTA-368;

- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vq21\_1 deposited with the ATCC under accession number PTA-368;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vq21\_1 deposited with the ATCC under accession number PTA-368;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vq21\_1 deposited with the ATCC under accession number PTA-368;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:98;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:98, the fragment comprising eight contiguous amino acids of SEQ ID NO:98;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:97.

107. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:98;
- (b) a fragment of the amino acid sequence of SEQ ID NO:98, the fragment comprising eight contiguous amino acids of SEQ ID NO:98; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vq21\_1 deposited with the ATCC under accession number PTA-368;

the protein being substantially free from other mammalian proteins.

108. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:99;
- (b) the nucleotide sequence of SEQ ID NO:99 from nucleotide 70 to nucleotide 699;
- (c) the nucleotide sequence of the full-length protein coding sequence of clone vr2\_1 deposited with the ATCC under accession number PTA-368;
- (d) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vr2\_1 deposited with the ATCC under accession number PTA-368;
- (e) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:100;
- (f) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:100, the fragment comprising eight contiguous amino acids of SEQ ID NO:100;
- (g) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(d); and
- (h) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(d), and that has a length that is at least 25% of the length of SEQ ID NO:99.

109. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:100;
- (b) a fragment of the amino acid sequence of SEQ ID NO:100, the fragment comprising eight contiguous amino acids of SEQ ID NO:100; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vr2\_1 deposited with the ATCC under accession number PTA-368;

the protein being substantially free from other mammalian proteins.

110. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:101;
- (b) the nucleotide sequence of SEQ ID NO:101 from nucleotide 170 to nucleotide 394;
- (c) the nucleotide sequence of SEQ ID NO:101 from nucleotide 227 to nucleotide 394;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone PTA-1075 deposited with the ATCC under accession number PTA-1075;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vc69\_1 deposited with the ATCC under accession number PTA-1075;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vc69\_1 deposited with the ATCC under accession number PTA-1075;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vc69\_1 deposited with the ATCC under accession number PTA-1075;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:102;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:102, the fragment comprising eight contiguous amino acids of SEQ ID NO:102;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:101.

111. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:102;

(b) a fragment of the amino acid sequence of SEQ ID NO:102, the fragment comprising eight contiguous amino acids of SEQ ID NO:102; and  
(c) the amino acid sequence encoded by the cDNA insert of clone vc69\_1 deposited with the ATCC under accession number PTA-1075; the protein being substantially free from other mammalian proteins.

112. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:103;
- (b) the nucleotide sequence of SEQ ID NO:103 from nucleotide 43 to nucleotide 198;
- (c) the nucleotide sequence of SEQ ID NO:103 from nucleotide 85 to nucleotide 198;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vc71\_1 deposited with the ATCC under accession number PTA-1075;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vc71\_1 deposited with the ATCC under accession number PTA-1075;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vc71\_1 deposited with the ATCC under accession number PTA-1075;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vc71\_1 deposited with the ATCC under accession number PTA-1075;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:104;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:104, the fragment comprising eight contiguous amino acids of SEQ ID NO:104;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and

(k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:103.

113. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:104;
- (b) a fragment of the amino acid sequence of SEQ ID NO:104, the fragment comprising eight contiguous amino acids of SEQ ID NO:104; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vc71\_1 deposited with the ATCC under accession number PTA-1075;

the protein being substantially free from other mammalian proteins.

114. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:105;
- (b) the nucleotide sequence of SEQ ID NO:105 from nucleotide 260 to nucleotide 1552;
- (c) the nucleotide sequence of SEQ ID NO:105 from nucleotide 335 to nucleotide 1552;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vo27\_1 deposited with the ATCC under accession number PTA-1075;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vo27\_1 deposited with the ATCC under accession number PTA-1075;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vo27\_1 deposited with the ATCC under accession number PTA-1075;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vo27\_1 deposited with the ATCC under accession number PTA-1075;

- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:106;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:106, the fragment comprising eight contiguous amino acids of SEQ ID NO:106;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:105.

115. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:106;
- (b) a fragment of the amino acid sequence of SEQ ID NO:106, the fragment comprising eight contiguous amino acids of SEQ ID NO:106; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vo27\_1 deposited with the ATCC under accession number PTA-1075; the protein being substantially free from other mammalian proteins.

116. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:107;
- (b) the nucleotide sequence of SEQ ID NO:107 from nucleotide 15 to nucleotide 320;
- (c) the nucleotide sequence of SEQ ID NO:107 from nucleotide 72 to nucleotide 320;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vo31\_1 deposited with the ATCC under accession number PTA-1075;

- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vo31\_1 deposited with the ATCC under accession number PTA-1075;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vo31\_1 deposited with the ATCC under accession number PTA-1075;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vo31\_1 deposited with the ATCC under accession number PTA-1075;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:108;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:108, the fragment comprising eight contiguous amino acids of SEQ ID NO:108;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:107.

117. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:108;
- (b) a fragment of the amino acid sequence of SEQ ID NO:108, the fragment comprising eight contiguous amino acids of SEQ ID NO:108; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vo31\_1 deposited with the ATCC under accession number PTA-1075;

the protein being substantially free from other mammalian proteins.

118. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:109;
- (b) the nucleotide sequence of SEQ ID NO:109 from nucleotide 38 to nucleotide 1255;
- (c) the nucleotide sequence of SEQ ID NO:109 from nucleotide 86 to nucleotide 1255;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vo32\_1 deposited with the ATCC under accession number PTA-1075;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vo32\_1 deposited with the ATCC under accession number PTA-1075;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vo32\_1 deposited with the ATCC under accession number PTA-1075;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vo32\_1 deposited with the ATCC under accession number PTA-1075;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:110;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:110, the fragment comprising eight contiguous amino acids of SEQ ID NO:110;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:109.

119. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:110;

- (b) a fragment of the amino acid sequence of SEQ ID NO:110, the fragment comprising eight contiguous amino acids of SEQ ID NO:110; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vo32\_1 deposited with the ATCC under accession number PTA-1075; the protein being substantially free from other mammalian proteins.

120. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:111;
- (b) the nucleotide sequence of SEQ ID NO:111 from nucleotide 80 to nucleotide 1276;
- (c) the nucleotide sequence of SEQ ID NO:111 from nucleotide 131 to nucleotide 1276;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vo33\_1 deposited with the ATCC under accession number PTA-1075;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vo33\_1 deposited with the ATCC under accession number PTA-1075;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vo33\_1 deposited with the ATCC under accession number PTA-1075;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vo33\_1 deposited with the ATCC under accession number PTA-1075;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:112;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:112, the fragment comprising eight contiguous amino acids of SEQ ID NO:112;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and

(k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:111.

121. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:112;
- (b) a fragment of the amino acid sequence of SEQ ID NO:112, the fragment comprising eight contiguous amino acids of SEQ ID NO:112; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vo33\_1 deposited with the ATCC under accession number PTA-1075;

the protein being substantially free from other mammalian proteins.

122. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:113;
- (b) the nucleotide sequence of SEQ ID NO:113 from nucleotide 202 to nucleotide 429;
- (c) the nucleotide sequence of SEQ ID NO:113 from nucleotide 292 to nucleotide 429;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vq23\_1 deposited with the ATCC under accession number PTA-1075;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vq23\_1 deposited with the ATCC under accession number PTA-1075;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vq23\_1 deposited with the ATCC under accession number PTA-1075;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vq23\_1 deposited with the ATCC under accession number PTA-1075;

- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:114;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:114, the fragment comprising eight contiguous amino acids of SEQ ID NO:114;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:113.

123. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:114;
- (b) a fragment of the amino acid sequence of SEQ ID NO:114, the fragment comprising eight contiguous amino acids of SEQ ID NO:114; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vq23\_1 deposited with the ATCC under accession number PTA-1075;

the protein being substantially free from other mammalian proteins.

124. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:115;
- (b) the nucleotide sequence of SEQ ID NO:115 from nucleotide 37 to nucleotide 1113;
- (c) the nucleotide sequence of SEQ ID NO:115 from nucleotide 88 to nucleotide 1113;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vq24\_1 deposited with the ATCC under accession number PTA-1075;

- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vq24\_1 deposited with the ATCC under accession number PTA-1075;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vq24\_1 deposited with the ATCC under accession number PTA-1075;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vq24\_1 deposited with the ATCC under accession number PTA-1075;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:116;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:116, the fragment comprising eight contiguous amino acids of SEQ ID NO:116;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:115.

125. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:116;
- (b) a fragment of the amino acid sequence of SEQ ID NO:116, the fragment comprising eight contiguous amino acids of SEQ ID NO:116; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vq24\_1 deposited with the ATCC under accession number PTA-1075;

the protein being substantially free from other mammalian proteins.

126. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:117;
- (b) the nucleotide sequence of SEQ ID NO:117 from nucleotide 40 to nucleotide 207;
- (c) the nucleotide sequence of SEQ ID NO:117 from nucleotide 103 to nucleotide 207;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vq26\_1 deposited with the ATCC under accession number PTA-1075;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vq26\_1 deposited with the ATCC under accession number PTA-1075;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vq26\_1 deposited with the ATCC under accession number PTA-1075;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vq26\_1 deposited with the ATCC under accession number PTA-1075;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:118;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:118, the fragment comprising eight contiguous amino acids of SEQ ID NO:118;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:117.

127. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:118;

(b) a fragment of the amino acid sequence of SEQ ID NO:118, the fragment comprising eight contiguous amino acids of SEQ ID NO:118; and

(c) the amino acid sequence encoded by the cDNA insert of clone vq26\_1 deposited with the ATCC under accession number PTA-1075; the protein being substantially free from other mammalian proteins.